

# A STUDY ON COMMUTERS SATISFACTION FOR PLATFORM SERVICES IN CHENNAI METRO RAIL LTD

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## ABSTRACT

The present study is an attempt to measure the satisfaction level of commuters of Chennai Metro for platform services as it is the first service encounter between commuters and Chennai Metro. Platform services are associated with tangible platform amenities and several other facilities available on the platform. In this study total 550 samples were taken from different metro stations using convenience sampling due to easy accessibility and affordability. Non disguised structured questionnaire was used as an instrument for collecting the data and 5 point likert scale was used for measuring the responses of respondents. The data was analysed by using SPSS statistical software and statistical tools such as cronbach alpha test, Descriptive Statistics, Chi square test was administered for processing of the data. The result of the study reveals that there is significant and linear relationship between Platform services satisfaction of commuters and variables causing satisfaction of passengers for Platform services. It was also found from the study that demographic variables play significant role in determining satisfaction level of customers.

**Key words-** commuters, platform service , service quality, customer satisfaction.

**INTRODUCTION:** Radical changes are taking place in public transport industry due to deregulation, privatization and liberalization. Earlier public transport industry was highly regulated and owned & controlled by public undertakings. Changes in the market forces and market dynamics forced the public transport organisation to adopt customer centric approach to deliver prompt and defect free services. Prior to 2010, public of Chennai have only three modes of transportation viz very limited sub-urban railway which connects Arakonnam-chennai beach-tambaram-chengalpattu, (Chennai Metropolitan Transport Corporation ) MTC bus service and Private bus service which were not adequate to meet increasing commuter's demand and unable to address high congestion problem. Due to variety of reasons including increasing population, traffic congestion, increasing pollution level, inability to expand new railway lines and related infrastructure for expansion of railway transport system; the government agencies and think tank started to find out the alternative and cost effective mode of public transportation. The concept of mass transit for metropolitan city emerged from the traffic and travel characteristics study which was carried out in late seventies. After taking into the consideration of all these issues, finally the government induced compact and sustainable mode of public transportation system in Chennai known as Chennai Metro Rail Ltd . Metro Railway is modified form of light rail and sub urban railway. It is sustainable, cost effective, reliable and environment friendly mode of public transportation and specifically designed for metropolitan cities.

In India the level of the service quality of public transport organisation is very poor because the regulatory authority has given the importance to cost efficiency, cost effectiveness and infrastructure development at the cost of service quality. The usage of public transport has been declining over the last decade in India despite the fact that travel demand increased in geometric proportion (Ranganathan.N, 2003) The reason behind

decline in the usage of public transport is poor infrastructure, poor quality of services and inferior image associated with public transport organisation. Chennai Metro significantly changed the perception of commuters for public transport services. It completely changed the meaning of travelling and transformed painful journey into cool and comfortable one. The popularity of Chennai Metro is growing day by day as a two lakhs commuters are travelling through Chennai Metro.

### **Literature Review:**

Due to variability of the services, it is extremely difficult for the service organization to provide uniform service quality to all the customers. Moreover, the intangible attributes of the services compelled the need to develop trust and confidence in the mind of customers for the service quality. This makes the services more humanistic rather than mechanical. The phrase 'customer satisfaction' was invented by Theodore C. Levitt in the year 1960. He described the concept of customer satisfaction in his article "Marketing Myopia" and the article was published in *Harvard Business Review*. In the year 1982, Peters and Robert Waterman along with McKinsey published a book "In Search of Excellence." This book spread the idea of caring for customers and customer satisfaction into management religion.

Measuring the satisfaction of the customers is a complex process as priority and expectation of the customers significantly vary. Various researchers developed the measure and scale to analyze the satisfaction of customers. Researchers across the world tried to analyze satisfaction and perception of commuters for public transportation services. Givoni, Moshe, Rietveld and Piet (2006) examined the impact of accessibility of railway station over the satisfaction level of the customers. Disney, John (2000) reviewed rail transportation in UK and discussed different aspects of customer satisfaction and loyalty. The researcher used "punctuality, cleanliness, attitude, overcrowding, comfort and catering for customer satisfaction survey." Meyer, C.F. De. and P.G. Mostert (2011) analyzed the effect of passenger satisfaction over long term relationship formation with special reference to South African domestic airlines. The authors pointed out that most of the studies which were conducted in airlines industries, assessed the satisfaction of the passengers only and very limited studies were made to assess the impact of satisfaction over long term relationship. In Indian context, an interesting study was conducted on public transport services by Sreedhar, R. (2012), Agarwal, R. (2008), Matoo, A. (2000) and Mathur M. (2000).

### **RESEARCH METHODOLOGY:**

In this study, total 13 independent variables and one dependent variable were identified. These variables were extracted through in depth interview, focus group interview and extensive review of literature. No disguised structured questionnaire was designed for the study and respondents were asked to indicate their degree of agreement or disagreement on 1 to 5 point likert scale. The objective of the study was also explained to respondents and questionnaires were filled in a self administered manner. Convenience sampling was used for collecting the sample keeping in mind time and financial constraint. Total 600 samples were selected from all the metro stations and maximum responses were taken from busiest metro stations such as Guindy and koyambedu. Out of 600 sample 550 samples were found suitable for the study which shows the response rate of 92% against original sample of 600. Remaining 85 questionnaires were removed from the study due to vague response given by the respondents. Pre testing of the questionnaire was administered on 20 carefully selected respondents and based on the feedback obtained from these respondents, few technical questions were removed and some questions were re-worded. Pilot study was performed on 50 respondents and content validity test was used to check validity of the questionnaire. In order to test the reliability of the data, cronbach alpha test was performed. Data was analysed by using statistical tools such as Descriptive Statistics and Chi square test.

### Objectives of the study

- 1 .To identify the factors influencing Platform services satisfaction of the commuters
- 2 .To analyze the strength and direction of relationship between Platform services satisfaction and variables causing satisfaction of passengers for Platform Services
3. To examine the relationship between demographic variables and several other variables causing Platform services satisfaction of commuters.

### Hypotheses

H01-There is insignificant relationship between age of passengers and medical facility on Platform.

H02-There is insignificant relationship between occupation of passengers and number of ticket counter on Platform.

H03-There is insignificant relationship between age of passengers and seating facility on Platform.

The above hypotheses are tested by Chi square test at 5% level of significance.

### Data Analysis

The data were analysed by SPSS( Statistical package for social science) and statistical tool-Chi square test was used for processing of the data.

### Reliability Test

In order to test reliability of the data, Cronbach alpha test was administered. Reliability is tendency of respondents to respond in a similar manner to identical questions. Out of three reliability tests, Internal Consistency Reliability test was used to test the reliability of data. Internal Consistency Reliability is used to assess the reliability of summated score by which several items are summed to form a total score. In this test Cronbach Alpha or Correlation Alpha was used. Cronbach alpha is different from correlation coefficient and it varies from 0 to 1. Coefficient value of 0.6 or less than 0.6 is considered to be unsatisfactory. Cronbach alpha is estimate of reliability and higher value of cronbach alpha is indicator of reliability.

TABLE -1 RELIABILITY TEST

S.NO	No.of Items	Cronbach Alpha
1	14	0.920

The above table shows that data is highly reliable as value of cronbach alpha is 92%. This shows that data is reliable by 92% and there is only 8% error variance in the data.

### Descriptive Analysis of Platform Services

Customer satisfaction also depends on tangible platform amenities and several other facilities available on the platform. The descriptive table describes the values of 13 independent variables and one dependent variable. The data was presented in the form of measure of location and measure of variability.

TABLE -2 DESCRIPTIVE STATISTICS

Parameters	N	Minimum	Maximum	Mean	Std Dev
1. Clarity Announcement	550	1.00	5.00	2.92	1.480
2. Updated information	550	1.00	5.00	2.92	1.438
3. Seating facility	550	1.00	5.00	2.92	1.075
4. Food, drinking	550	1.00	5.00	2.92	1.085
5. Waiting space	550	1.00	5.00	2.92	1.063
6. Enquiry handling	550	1.00	5.00	2.92	1.054
7. Medical facility	550	1.00	5.00	2.92	1.017
8. Signage no	550	1.00	5.00	2.92	1.181
9. Entry exit points	550	1.00	5.00	2.92	1.224
10. Directional clarity signage	550	1.00	5.00	2.92	1.288
11. Wheel chair	550	1.00	5.00	2.92	1.170
12. Connectivity	550	1.00	5.00	2.92	1.268
13. Platform cleanliness	550	1.00	5.00	2.92	1.485
14. Platform services satisfaction	550	1.00	5.00	2.92	0.835

The above table No-2 describes the data in the form of mean and standard deviation. It is apparent from the above table that highest standard deviation is 1.480 for clarity of announcement. It is seen from the table that the mean value of all the variables is in the close range of variation which is indication of good validity of the construct being used for the study. It is clear from the above table that responses fall approximately in neutral range.

#### CHI SQUARE TEST:

Chi square test is used for qualitative data. Chi square test was administered to examine the relationship between demographic variables and variables causing passenger satisfaction. For conducting Chi square test, sample should be drawn randomly from the population and values of the variable should be mutually exclusive. Chi square test analyses that whether observed frequency is matching with expected frequency or not.

*H01- There is insignificant relationship between age of passengers and medical facility on the Platform.*

TABLE-3

<b>CHI-SQUARE</b>			
	<b>VALUE</b>	<b>DF</b>	<b>Asymp.Sig(2-tailed)</b>
Pearson Chi-Square	<b>40.560</b>	<b>12</b>	<b>0.000</b>
Likelihood Ratio	<b>39.901</b>	<b>12</b>	<b>0.000</b>
Linear-by-Linear Association	<b>10.693</b>	<b>1</b>	<b>0.001</b>
N of Valid Cases	<b>1015</b>		

The above table shows that there is significant difference between actual count and expected count. This leads to increase in the value of chi square. Secondly it is also apparent from the table that the value of Chi square test is significant at 5% significance level, this shows that there is significant relationship between age of passengers and medical facility on Platform.

*H02- There is insignificant relationship between occupation of passengers and number of Ticket counter on Platform.*

TABLE-4

<b>CHI-SQUARE</b>			
	<b>VALUE</b>	<b>DF</b>	<b>Asymp.Sig(2-tailed)</b>
Pearson Chi-Square	<b>42.851</b>	<b>12</b>	<b>0.000</b>
Likelihood Ratio	<b>42.920</b>	<b>12</b>	<b>0.000</b>
Linear-by-Linear Association	<b>0.884</b>	<b>1</b>	<b>0.347</b>

The above table shows that the value of Chi square test is significant at 5% significance level. This shows that null hypothesis is rejected and alternate is accepted. This indicates that there is significant relationship between occupation of passengers and adequacy of number of ticket counters.

*H03-There is insignificant relationship between age of passengers and seating facility.*

TABLE-5

<b>CHI-SQUARE</b>			
	<b>VALUE</b>	<b>DF</b>	<b>Asymp.Sig(2-tailed)</b>
Pearson Chi-Square	<b>73.118</b>	<b>12</b>	<b>0.000</b>
Likelihood Ratio	<b>86.769</b>	<b>12</b>	<b>0.000</b>
Linear-by-Linear Association	<b>0.029</b>	<b>1</b>	<b>0.864</b>

The above table shows that there is significant difference between observed frequency and expected frequency with respect to different age group of people in all five scales. In some scale it is very high and in some scale it is very low but overall significant difference is observed. The above table also shows that value of Chi square is significant as p-value is less than 5% level of significance. This states that there is significant relationship between age of passengers and seating facility.

**CONCLUSION:**

Platform services are very important interface between commuters and Public transport organization and commuters form the perception regarding quality of remaining services of transport organization based on quality of Platform services. It was found from the study that responses of most of the respondents fall in neutral range. Low rating was found for platform services of Chennai Metro because maximum responses were taken from busiest metro stations. Moreover the commuters of busiest metro stations are not very much happy with Platform services due to high customer traffic, long waiting time in a queue at ticket counter and length of queue at exit and entry points. Significant difference in the rating of passengers was found who travel from busiest metro station and who travel from the stations where customer traffic is low. It can be concluded from this study that demographic variables influence the perception of customers for different kinds of facilities available on the Platform. The result of Chi square test ascertains that the value of Chi square test is significant at 5% level of significance which confirms that there is significant relationship between demographic variables and variables causing satisfaction of commuters for Platform services.

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